

Claim 1 recites, inter alia, a method of routing a system bus to a plurality of expansion cards comprising, “routing the bus into a first connector and into a first circuit card residing within the first connector; routing the bus from a portion of the first circuit card into a portion of a second circuit card residing within a second connector, wherein the bus is routed from the first circuit card to the second circuit card without entering the second connector; and routing the bus through the second circuit card to the second connector.”

Appel intends to address the problem of optimizing a reflection profile of a data network by providing a connection between daughter cards on a motherboard. Appel discloses daughter boards are connected to motherboard through slots in the motherboard. The daughter boards are also both directly connected to the data net or bus system of the motherboard through stubs in the connector slots. (Col. 3, line 62 – Col. 4, line 7, Fig. 3).

The invention of Appel provides an additional data connection between the daughter cards, where the second connection is not part of the connector slot, but at the top of the daughter cards (Col. 3, lines 61-66). In this manner, the invention of Appel not only discloses the bus being connect to both slots but also forming a looped bus network in the daughter cards.

Appel fails to suggest or disclose a “method of routing a system bus to a plurality of expansion cards” where the bus is routed “into a first connector and into a first circuit card residing within the first connector” and where the “bus is routed from the first circuit card to the second circuit card without entering the second connector.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds an expansion card. Accordingly, for at least that reason, the withdrawal of the rejection of claim 1 is respectfully requested.

Claims 4 – 13 depend from claim 1, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested.

Claim 14 recites, *inter alia*, a method of routing a system bus to a plurality of expansion cards provided on a motherboard of the system, comprising “routing the bus into a first circuit card residing within a first slot; routing the bus from a portion of the first circuit card into a portion of a second circuit card residing within a second slot, wherein the bus is routed from the first circuit card to the second circuit card without entering the second slot; and routing the bus through the second circuit card.”

Appel fails to suggest or disclose a “method of routing a system bus to a plurality of expansion cards provided on a motherboard of the system” where the bus is routed “into a first circuit card residing within a first slot” and that the “bus is routed from the first circuit card to the second circuit card without entering the second slot.” To the contrary, Appel discloses a bus system that is coupled directly to each slot that holds an expansion card. Accordingly, for at least that reason, withdrawal of the rejection of claim 14 is respectfully requested.

Claims 17 – 29 depend from claim 14, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested.

Claim 30 recites, *inter alia*, a method of routing a system bus to a plurality of expansion cards, comprising “routing the bus into a first connector and into a first circuit card residing within the first connector; substantially vertically routing the bus to a device on the first circuit card; substantially vertically routing the bus from the device on the first circuit card to a different portion of the first connector; routing the bus into a second connector and into a second circuit card residing within the second connector; substantially vertically routing the bus to a device on the second circuit card; and substantially vertically routing the bus from the device on the second circuit card to a different portion of the second connector.”

Appel fails to suggest or disclose a “method of routing a system bus to a plurality of expansion cards” where the bus is routed “into a first connector and into a first circuit card residing within the first connector” and “substantially vertically routing the bus from the device on the first circuit card to a different portion of the first connector.” Nor does Appel suggest or disclose “substantially vertically routing the bus to a device on the second circuit card.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds an expansion card. Accordingly, for at least those reasons, withdrawal of the rejection of claim 30 is respectfully requested.

Claims 33 - 35 depend from claim 30, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested.

Claim 36 recites, *inter alia*, a bus system comprising “a bus mounted on a circuit board of said system; and a plurality of expansion slots, each slot comprising a connector mounted on said circuit board and a circuit card residing within the connector, wherein said bus is routed into a first connector, into a first circuit card residing within said first connector, out of a portion of said first circuit card into a portion of a second circuit card residing within a second connector and through said second circuit card, and wherein said bus is routed from said first circuit card to said second circuit card without entering said second connector.”

Appel fails to suggest or disclose “a bus system “where the “bus is routed into a first connector, into a first circuit card residing within said first connector” and the “bus is routed from said first circuit card to said second circuit card without entering said second connector.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 36 is respectfully requested.

Claims 39 – 44 and 50 depend from claim 36, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested.

Claim 51 recites, inter alia, a bus system comprising “a bus mounted on a circuit board of said system; and a plurality of expansion slots mounted on said circuit board, wherein said bus is routed into a first circuit card residing within a first slot, out of a portion of said first circuit card and into a portion of a second circuit card residing within a second slot and out of the second circuit card, wherein said bus is routed from said first circuit card to said second circuit card without entering said second slot.”

Appel fails to suggest or disclose “a bus system” where the “bus is routed into a first circuit card residing within a first slot” and the “bus is routed from said first circuit card to said second circuit card without entering said second slot.” To the contrary, Appel discloses a bus system that is coupled directly to each slot that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 51 is respectfully requested.

Claims 54-59 and 65 depend from claim 51, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested.

Claim 66 recites, inter alia, a processor-based system comprising “a processor; and a bus system coupled to said processor; said bus system comprising: a bus mounted on a circuit board of said system; and a plurality of expansion slots, each slot comprising a connector mounted on said circuit board and a circuit card residing within the connector, wherein said bus is routed into a first connector, into a first circuit card residing within said first connector, out of a portion of said first circuit card into a portion of a second circuit card residing within a second connector, through said second circuit card and out of said second connector, wherein

said bus is routed from said first circuit card into said second circuit card without entering said second connector.”

Appel fails to suggest or disclose “a processor-based system” where the “bus is routed into a first connector, into a first circuit card residing within said first connector” and the “bus is routed from said first circuit card into said second circuit card without entering said second connector.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 66 is respectfully requested.

Claim 67 recites, inter alia, a processor-based system comprising “a processor; and a bus system coupled to said processor; said bus system comprising: a bus mounted on a circuit board of said system; and a plurality of expansion slots mounted on said circuit board, wherein said bus is routed into a first circuit card residing within a first slot, out of a portion of said first circuit card and into a portion of a second circuit card residing within a second slot and out of the second circuit card, wherein said bus is routed from said first circuit card into said second circuit card without entering said second slot.”

Appel fails to suggest or disclose a “processor-based system” where the “bus is routed into a first circuit card residing within a first slot” and the “bus is routed from said first circuit card into said second circuit card without entering said second slot.” To the contrary, Appel discloses a bus system that is coupled directly to each slot that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 67 is respectfully requested.

Claim 68 recites, inter alia, a processor-based system comprising “a processor; and a memory bus system coupled to said processor; said bus system comprising: a bus mounted on a circuit board of said system; and a plurality of expansion slots mounted on said circuit board, wherein said bus is routed into a first memory circuit card residing within a first slot, out of a

portion of said first memory circuit card and into a portion of a second memory circuit card residing within a second slot, and out of the second memory circuit card, wherein said bus is routed from said first memory circuit card into said second memory circuit card without entering said second slot.”

Appel fails to suggest or disclose a “processor-based system” where the “bus is routed into a first memory circuit card residing within a first slot” and the “bus is routed from said first memory circuit card into said second memory circuit card without entering said second slot.” To the contrary, Appel discloses a bus system that is coupled directly to each slot that holds a memory circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 68 is respectfully requested.

Claim 69 recites, *inter alia*, a circuit card for use in a expandable system comprising: “an input bus connection for receiving signals from a system bus; an output bus connection for outputting signals to said bus; and a bus portion connecting said input bus connection to said output bus connection for routing bus signals through said card, wherein either said input bus connection does not connect to a connector in which said card resides or said output bus connection does not connect to a connector in which said card resides.”

Appel fails to suggest or disclose a “circuit card for use in a expandable system” having “an input bus connection [and] an output bus connection” where “either said input bus connection does not connect to a connector in which said card resides or said output bus connection does not connect to a connector in which said card resides.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds an expansion card. Accordingly, for at least that reason, withdrawal of the rejection of claim 69 is respectfully requested.

Claim 70 recites, *inter alia*, a processor-based system comprising “a processor; and a memory bus system coupled to said processor; said bus system comprising: a bus mounted on

a circuit board of said system; and a plurality of expansion connectors mounted on said circuit board, wherein said bus is routed into a first connector and into a first circuit card residing within the first connector, substantially vertically to a device on the first circuit card, substantially vertically the device on the first circuit card to a different portion of the first connector, into a second connector and into a second circuit card residing within the second connector, substantially vertically to a device on the second circuit card, and substantially vertically from the device on the second circuit card to a different portion of the second connector.”

Appel fails to suggest or disclose a “processor-based system” where the “bus is routed into a first connector and into a first circuit card residing within the first connector” and is routed “substantially vertically to a device on the first circuit card.” Nor does Appel suggest or disclose the bus being routed “substantially vertically the device on the first circuit card to a different portion of the first connector.” Nor does Appel suggest or disclose the bus being routed “substantially vertically to a device on the second circuit card.” Nor does Appel suggest or disclose the bus being routed “substantially vertically from the device on the second circuit card to a different portion of the second connector.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds an expansion card. Accordingly, for at least those reasons, withdrawal of the rejection of claim 70 is respectfully requested.

Claims 71 - 72 depend from claim 70, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested.

Claims 2-3, 15-16, 31-32, 37-38, and 52-53 stand rejected under 35 U.S.C. § 103(a) as being obvious over Appel. Reconsideration is respectfully requested.

Claims 2 – 3 depend from claim 1, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested for at least the reasons argued above.

Claims 15- 16 depend from claim 14, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested for at least the reasons argued above.

Claims 31- 32 depend from claim 30, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested for at least the reasons argued above.

Claims 37-38 depend from claim 36, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested for at least the reasons argued above.

Claims 52-53 depend from claim 51, and incorporate, directly and indirectly, all the limitations thereof. Therefore, withdrawal of the rejection of those claims is respectfully requested for at least the reasons argued above.

Claims 45 and 60 stand rejected under 35 U.S.C. § 103(a) as being obvious over Appel in view of Cargin, Jr. et al. (“Cargin”) (U.S. Pat. No. 6,023,147). Reconsideration is respectfully requested.

Cargin discloses a hand held computer apparatus that includes a ribbon cable for coupling a radio module to a controller card.

Claim 45 depends from claim 36, and incorporate, directly and indirectly, all the limitations thereof. Thus, claim 45 is allowable for at least the reasons argued above. Further, neither Cargin nor Appel suggest or disclose “a bus system” where the “bus is routed into a

first connector, into a first circuit card residing within said first connector” and the “bus is routed from said first circuit card to said second circuit card without entering said second connector.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 45 is respectfully requested.

Claim 60 depends from claim 51, and incorporate, directly and indirectly, all the limitations thereof. Thus, claim 60 is allowable for at least the reasons argued above. Further, neither Cargin nor Appel suggest or disclose “a bus system” where the “bus is routed into a first circuit card residing within a first slot” and the “bus is routed from said first circuit card to said second circuit card without entering said second slot.” To the contrary, Appel discloses a bus system that is coupled directly to each slot that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claim 60 is respectfully requested.

Claims 46-49 and 61-64 stand rejected under 35 U.S.C. § 103(a) as being obvious over Appel in view of the Handbook of LAN Cable Testing. (“Handbook”). Reconsideration is respectfully requested.

The Handbook discloses different types of data cables.

Claims 46-49 depend from claim 36, and incorporate, directly and indirectly, all the limitations thereof. Thus, claims 46-49 are allowable for at least the reasons argued above. Further, neither the Handbook nor Appel suggest or disclose “a bus system” where the “bus is routed into a first connector, into a first circuit card residing within said first connector” and the “bus is routed from said first circuit card to said second circuit card without entering said second connector.” To the contrary, Appel discloses a bus system that is coupled directly to each connector that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claims 46-49 is respectfully requested.

Claims 61-64 depend from claim 51, and incorporate, directly and indirectly, all the limitations thereof. Thus, claims 61-64 are allowable for at least the reasons argued above. Further, neither the Handbook nor Appel suggest or disclose “a bus system” where the “bus is routed into a first circuit card residing within a first slot” and the “bus is routed from said first circuit card to said second circuit card without entering said second slot.” To the contrary, Appel discloses a bus system that is coupled directly to each slot that holds a circuit card. Accordingly, for at least that reason, withdrawal of the rejection of claims 61-64 is respectfully requested.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to withdraw the outstanding rejection of the claims and to pass this application to issue.

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Respectfully submitted,

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